

What is claimed is :

1. A turbo/drag vacuum pump comprising a rotor having an upstream rotor segment of turbine type and a downstream rotor segment in the form of a Holweck type skirt, the upstream rotor segment being made of metal or alloy, the downstream rotor segment being made of organic matrix composite material, and the downstream rotor segment being connected to the upstream rotor segment via an annular connection region,
wherein :
 - the downstream rotor segment comprising a Holweck type skirt made of organic matrix composite material has a fiber reinforcing structure imparting mechanical characteristics to the Holweck skirt that vary as a function of the longitudinal region under consideration of the skirt,
 - in the annular connection region, the organic matrix composite material presents mechanical and thermal characteristics close to those of the metal or alloy constituting the upstream rotor segment, and
 - in the downstream region of the skirt, the organic matrix composite material presents characteristics that are more suitable for withstanding the high mechanical stresses that result in this downstream region of the skirt from the high-speed rotation of the rotor in operation.
2. A turbo/drag vacuum pump according to claim 1, wherein the reinforcing structure comprises long fibers wound helically at constant pitch and coated in resin, the resin fraction varying depending on the longitudinal region under consideration of the skirt.
3. A turbo/drag vacuum pump according to claim 1, wherein the reinforcing structure comprises helically-wound long fibers coated in resin at a constant resin fraction, the

pitch of the helix varying depending on the longitudinal region under consideration of the skirt.

4. A turbo/drag vacuum pump according to claim 1, wherein
5 the reinforcing structure comprises helically-wound long fibers coated in resin, the pitch of the helix and the resin fraction both varying depending on the longitudinal region under consideration of the skirt.
- 10 5. A turbo/drag vacuum pump according to claim 3, wherein the helix presents an angle close to 0° in the downstream region of the skirt, and presents an angle greater than 0° in and close to the annular connection region.
- 15 6. A turbo/drag vacuum pump according to claim 1, wherein the skirt is cylindrical.
7. A turbo/drag vacuum pump according to claim 1, wherein the skirt comprises an annular connection region, a
20 cylindrical downstream skirt segment of diameter greater than that of the annular connection region, and an intermediate transition region between the annular connection region and the downstream skirt segment.
- 25 8. A turbo/drag vacuum pump according to claim 1, wherein the reinforcing fibers are cut along the upstream edge of the skirt.
9. A method of making a Holweck type skirt for a
30 turbo/drag pump according to claim 5, the method comprising :
- a/ a step consisting in helically winding long fibers on a mandrel, winding at a pitch angle close to 0° in the regions adjacent to the two ends of the mandrel
35 and winding at a pitch angle greater than 0° in the middle region of the mandrel,

b/ a step of applying and hardening the resin on the mandrel carrying the helically-wound fibers, and

c/ a step consisting in cutting the sleeve as obtained in this way in its middle region in order to
5 obtain two skirts.